REMARKS

Claims 1-12, 14-20, and 22-24 are pending.

Claims 1-12, 14-20, and 22-24 were rejected

Claims 13 and 21 were previously cancelled.

Claims 1, 2, 7-9, 11, 12, 14-18, 23 and 24 are amended, herein. No new matter is added.

Request for Continued Examination – 35 U.S.C. § 132(b) & 37 CFR § 1.114

Applicant is filing herewith a Request for Continued Examination. Authorization to pay the examination fee is included with this response.

Claim Rejections – 35 U.S.C. § 102

The Examiner rejected claims 1-12, 14-20, 22-24 under 35 U.S.C. § 102(b) over Sekiguchi (U.S. Patent 5,798,564) in view of Schaefer, *et al.*, (U.S. Patent 7,094,502).

The rejection is traversed; however Applicant amends claims 1, 2, 7-9, 11, 12, 14-18, 23 and 24 to expedite prosecution. Amended claim 1 recites a device for forming a two dimensional image on a screen comprising:

> a coherent illumination means;
> an electrically addressed spatial light modulator means configured to diffract light received from the coherent illumination means, wherein the light is received by said electrically addressed spatial light modulator means as a plurality of sequential computer generated images; and
> optics configured to direct light diffracted by the electrically addressed spatial light modulator means to different areas of the screen to optically build up a single frame of the two dimensional image over time, wherein each of the plurality of sequential computer generated images correspond to one of the different areas of the screen.

Sekiguchi describes a projection apparatus which calculates and displays a Fraunhofer diffraction image in order to project the original image on a screen. The original image is projected as a high field angle image without the need to divide the image into partial images (col. 2 lines 22-40). In rejecting previously pending claim 1, the Examiner identified three color light sources of Sekiguchi combined with a single or multiple EASLM (page 2 final paragraph of

the Office Action). Figure 9 of Sekiguchi describes images for three wavelength components which are displayed on a single LC display 203 and projected on a screen 105 as a color image (Figure 9 and col. 12 line 62 to col. 13 line 2). The Examiner suggested that colored images disclose the single frame of claim 1. Applicant assumes that the Examiner is referring to the images of the three wavelengths of Sekiguchi which are synthesized on the screen 105.

Claim 1 is amended to recite optics configured to direct light diffracted by the electrically addressed spatial light modulator means to different areas of the screen to optically build up a single frame of the two dimensional image over time. Sekiguchi describes first and second lens 103, 104 that project the wavelength images onto the entire screen 105 (col. 4 lines 18-40). Accordingly, Sekiguchi does not disclose directing light to different areas of the screen 105. Furthermore, Sekiguchi expressly teaches away from the features of claim 1 which recite each of a plurality of sequential computer generated images that corresponds to one of the different areas of the screen, as the color image of Sekiguchi is instead projected as an undivided image (col. 4 lines 57-60). At least for these reasons, claim 1 is believed to be allowable.

Amended claim 12 recites a method of forming a two dimensional image on a screen comprising:

> illuminating an electrically addressed spatial light modulator with coherent light;
>
> displaying a computer generated hologram image on the electrically addressed spatial light modulator so as to diffract light therefrom;
>
> sub-dividing the two dimensional image into a number of adjacent blocks, wherein each of said adjacent blocks is associated with a different region of said screen; and
>
> directing light diffracted by the electrically addressed spatial light modulator to sequentially write the blocks to the screen.

In rejecting previously presented claim 12, the Examiner indicated that each sequentially colored image of Sekiguchi may be interpreted as a block. While the Applicant does not agree with this interpretation, claim 12 is amended to recite sub-dividing the two dimensional image into a number of adjacent blocks, wherein each of said adjacent blocks is associated with a different region of said screen. As previously discussed, Sekiguchi describes three wavelength images which are radiated on a single LC display 203 and projected on the entire screen 105 via optical lenses 103, 104 (Figure

9 and col. 5 lines 32-35). Sekiguchi fails to disclose adjacent blocks. Furthermore, Sekiguchi expressly teaches away from sub-dividing the two dimensional image into a number of adjacent blocks, as the color image of Sekiguchi is projected as a complete, undivided image (col. 4 lines 57-60). At least for these reasons, claim 12 is believed to be allowable.

Amended claim 14 recites a device for forming a two dimensional image on a screen comprising

> a plurality of electrically addressed spatial light modulators configured to simultaneously diffract light received from one or more coherent light sources; and
>
> optics configured to direct light diffracted by said plurality of electrically addressed spatial light modulators to the screen, wherein a frame rate of each of the electrically addressed spatial light modulators is greater than a frame rate of the two dimensional image formed at the screen.

Claim 14 is amended to recite a plurality of electrically addressed spatial light modulators configured to simultaneously diffract light received from one or more coherent light sources. Figure 10 of Sekiguchi discloses a projection type display wherein images of different wavelength components are presented and synthesized simultaneously to produce a color image (col. 3 lines 21-26). However, since the wavelength components of Figure 10 are synthesized simultaneously, it follows that each laser has an identical frame rate as the color image, that is, there is a one-to-one relationship between the number of wavelength images generated by each laser and the number of color images projected on the screen 105 of Sekiguchi. Accordingly, the system of Figure 10 fails to disclose wherein a frame rate of each of the electrically addressed spatial light modulators is greater than a frame rate of the two dimensional image formed at the screen, as recited by claim 14.

In rejecting previously presented claim 14, the Examiner states that "In a sequential system the frame rate of the SLM would be greater than that of the viewable image formed at the screen because each color represents 1/3 of a frame so that the frame rate of the SLM is 3 times that of the full color image formed at the screen..." Accordingly, the Examiner's argument appears to be directed to the sequential system described for Figure 9 of Sekiguchi, rather than the simultaneous system described for Figure 10.

Since the Examiner failed to include any reference to the above, Applicant assumes that the Examiner is making an inherency argument. Applicant respectfully reminds the Examiner that according to MPEP 2112 (IV), to establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. As described above with respect to the system of Figure 10, and per the below discussion of the system of Figure 9, the features recited by claim 14 are not necessarily present in any of the systems described by Sekiguchi, and in fact are contrary to its teachings. Accordingly, Applicant respectfully submits that the features are not inherent in view of Sekiguchi.

Sekiguchi in fact teaches away from the interpretation of frame rate by the Examiner. According to Sekiguchi, the three wavelength images generated by lasers 201a-c are synthesized to create a single color image at the screen 105 (col. 3 lines 17-26). This is true regardless if the three wavelengths are synthesized in sequence (e.g. Figure 9) or simultaneously (e.g. Figure 10). For a single frame of the color image projected on the screen 105, each of the lasers 201a-c generates a single wavelength image to be synthesized. Similarly, for any give period of time (e.g. one second), each of the lasers 201a-c would generate the same number of wavelengths as there are number of color images. That one or more of the lasers may be inoperative during a portion of the time (e.g. 2/3 of the time) is irrelevant to the number of wavelengths that are transmitted by each laser during the creation of the single color image. Accordingly, the lasers 201a-c would be understood by one skilled in the art as having a same frame rate as the color image.

Furthermore, the lasers 201a-c of Figure 9 are not configured to simultaneously diffract light received from one or more coherent light sources, as recited by claim 14. Rather, as stated, each of the lasers 201a-c sequentially present the wavelength images to the LC display 203 (col. 12 lines 24-26). Accordingly, even assuming for arguments sake that the lasers 201a-c have a greater frame rate than the color image projected on the screen 105, the system of Figure 9 still fails to disclose each of the features recited by claim 14. At least for these reasons, claim 14 is believed to be allowable.

Claims 2, 7-9, 15-18, 23 and 24 are believed to be allowable as depending on claims 1, 12 and 14 in addition to the further novel features recited therein. For example, claim 2 recites the device according to claim 1 wherein the electrically addressed spatial light modulator means

comprises a plurality of electrically addressed spatial light modulators, each modulator configured to receive a different color sequence of computer generated images, wherein said single frame is built up using a plurality of computer generated images from each of the different color sequences. Figures 9 and 10 of Sekiguchi disclose systems including lasers 201a-c that generate, at most, a single wavelength image corresponding to each color image. Accordingly, each color image of Sekiguchi is synthesized by at most, a single wavelength image from each of the lasers 201a-c, and not a plurality of computer generated images as recited by claim 2.

By way of further example, amended claim 8 recites the device according to claim 1 in which said light is sequentially directed to the different areas of said screen, each of said different areas associated with a number of lines of pixels that when combined appear to form said two dimensional image comprised of an array of said pixels. According to Sekiguchi, light is transmitted by the optical lenses 103, 104 to the entire screen, wherein single or multiple Fraunhofer diffraction images are synthesized to create a single color image (col. 2 lines 22-39).

At least for the above reasons, withdrawal of the rejection of claims 1-12, 14-20, and 22-24 is respectfully requested.

Claim Rejections – 35 U.S.C. § 103

The Examiner rejected claims 2, 3, 5, and 15 under 35 U.S.C. § 103(a) over Sekiguchi and Schaefer, in view of Suh (U.S. Patent 5,805,244).

Suh describes a system for combining light comprised of three colors that are output to a projector lens as a combined video output image (Abstract).

The Examiner acknowledges at page 4 second full paragraph, that Sekiguchi and Schaefer fail to disclose "the use of plural panels or sections for forming different color component images and combining them for full color image formation." While Applicant does not necessarily agree with the Examiner's characterization of previously presented claims 2, 3, 5 and 15, Applicant nevertheless agrees that these claims are allowable over these references. As the Examiner does not suggest that Suh discloses any of the features recited by independent claims 1 and 14, upon which claims 2, 3, 5 and 15 depend, Applicant respectfully submits that Suh fails to cure the deficiencies of Sekiguchi described above in Applicant's response to the 35 USC §102 rejection.

Furthermore, Suh fails to disclose the features recited by the presently rejected claims 2, 3, 5, and 15. For example, Suh fails to disclose where each modulator is configured to receive a different color sequence of computer generated images, wherein said single frame is built up using a plurality of computer generated images from each of the different color sequences, as recited by claim 2. Rather Suh discloses where each color image is comprised of combined video image output from a monochromatic LCD (col. 3 lines 21-33). Presumably each frame of the color image is comprised of a single input from each of the red, blue and green components of the LCD (col. 4 lines 38-57). By way of further example, Suh fails to disclose the features of claim 15 reciting an array of pixels sub-divided into a plurality of adjacent blocks. The outputted video images of Suh are combined as a video image and projected from the projector lens 12 onto a screen 10 as a complete color image (col. 4 lines 22-26).

At least for the above reasons, claims 2, 3, 5 and 15 are believed to be allowable. Accordingly, withdrawal of the rejection of claims 2, 3, 5 and 15 is respectfully requested.

Any statements made by Examiner that are not addressed by Applicant do not necessarily constitute agreement by the Applicant. In some cases Applicant may have amended or argued the allowability of independent claims thereby obviating grounds for rejection of the dependent claims.

Conclusion

For the foregoing reasons, Applicant requests reconsideration and allowance of claims 1, 2, 7-9, 12, 14-18, 23 and 24. The Applicant encourages the Examiner to telephone the undersigned if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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CERTIFICATE OF E-FILING

I hereby certify that the attached Amendment Accompanied by Request for Continued Examination (RCE) Under 37 CFR § 1.114 and RCE are being submitted electronically via the EFS-Web Filing System on June 4, 2008.

/Mandi M. Leighty/

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